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EXAMINER

PARKER, FREDERICK JOHN

ART UNIT PAPER NUMBER

1762

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS 12

Office Action Summary

Application No.

09/864,348

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE — 3 — MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 5/20/02
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-48 is/are pending in the application.
- Of the above claim(s) 1-19, 32, 45-46 is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 20-37, 39-44, 47, 48 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☐ All ☐ Some* ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____
- ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 42/0 ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other _____

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-19,38,45-46, drawn to woven fabric, classified in class 442, subclass 181.
 - II. Claims 20-37, 39-44,47,48, drawn to method, classified in class 427, subclass 180.
2. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by another and materially different process comprising entraining particulates in a liquid carrier instead of a gaseous carrier.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Andrew Van Court on 3/18/03 a provisional election was made without traverse to prosecute the invention of group II, claims 20-37,39-44,47,48. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-19,38,45-46 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(l).

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Specification

6. The disclosure is objected to because of the following informalities: In the "Brief Description of the Drawings" on page 4 bridging page 5, the descriptions of figures 1 and 2 should be as separate paragraphs. Appropriate correction is required.

Claim Objections

7. Claim 20 is objected to because of the following informalities: - Claim 20, line 11 before "material", --woven-- should be inserted for consistency. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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- Claim 20, step (c) is vague and indefinite because the relationship between the first face and second face is unclear (e.g. are they opposing faces? perpendicular to one-another? etc).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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12. Claims 20-37,39-44,47,48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh GB 2238802 in view of Edwards et al WO98/42909.

Singh teaches a method of producing a particulate- bearing air permeable material comprising entraining particles in an air stream substantially absent of fiber; contacting the stream with one face of a *non-woven* fibrous material while maintaining and controlling a pressure drop across the thickness of the material such that at least some particulate material is retained within the fibrous material; and then fixing the particles to the fibers using a binder (pages 8-9). Pressure drop may be controlled by applying suction means to the face opposite the contacted face (p.11, last paragraph) per claim 3. Suction box 14 comprises wooden slats (claim 32), fan, butterfly valve (claim 41), and bag filter, the adjusting of which to control particle size distribution within the fabric would have been an obvious process parameter within the purview of one of ordinary skill. Recirculation of non-entrapped particles is taught on page 15, 2-6. Binder materials are natural or synthetic, e.g. latex, Neoprene, PVA, etc which can be applied as solution or particle form (p. 19, 6-28 etc), and then the binder-containing particle laden fabric is passed through an infra-red oven (claims 35-37). Particles exemplified by the Table include carbon (encompassing odor-absorbent activated carbon) and silica gel (which inherently has desiccant/

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moisture management properties). Singh teaches non-woven fabric and foam substrates, but does not teach woven fabric substrates.

Edwards et al teaches to impregnate woven and non-woven fabrics with UV blocking particles (on page 7, metal oxides (encompassing silica), ZnO, carbons, graphite, ceramics, etc per claim 28), and further teaches to retain the articles within the fabric using a binding agent. Edwards recognizes that particle impregnation is applicable to any POROUS woven or non-woven fabric having suitable interstitial spaces available for particle deposition (p. 6, 16-23). It further recognizes on page 7, 27-30 that particles are deposited in woven fabrics "in the space between fibers" whereas in non-woven fabric they are deposited "in the pores of the fabric", in either case spaces or pores being simply openings acting a suitable sites for particle deposition in a permeable fabric.

Thus, while Singh deals with air-permeable non-wovens not generally having a perfectly uniform distribution of voids, in view of the teachings and equivalence of woven and non-woven fabrics of Edwards, it is the Examiner's position that one of ordinary skill would have recognized that since both fabrics have open, permeable structures amenable to the deposition of particles, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Singh for application of particles by

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fluids into woven as well as non-woven fabric as recognized by Edwards because of the expectation of successfully applying such particles within the spaces between the fibers of the thickness profile of the porous, woven fabrics. There is no rationale or evidence to indicate to the Examiner that similar results of particle retention in fabric material would NOT be achieved for woven as well as non-woven material, all else being similar, since both contain open spaces capable of containing particles.

Per claims 30, 47-48, while the specific particle loadings are not taught, it would have been obvious to one skilled in the art to apply particles in a sufficient amount to provide the fabric with its intended utility, e.g. UV blockage, moisture absorbency, etc.

It is evident from the references that the fabric materials are not in any state other than the natural/ relaxed state, i.e. there is not reason to believe that they are under tension/ stretching. Retaining this state would have been an obvious step in order to prevent changing the size of the spaces/ voids between fibers which might have resulted in the escape of particles through enlarged openings if a fabric is stretched/ tensioned. Maintaining the desired relaxed state using known and conventional holding means such as picking fingers

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would have been obvious, absent a clear and convincing showing to the contrary.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the process of Singh for woven fabrics in view of the teachings of Edwards et al that particles are retained in the openings/ voids of woven and non-woven fabrics because there would have been the expectation of successfully retaining particles in woven fabrics using the method of Singh.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred J. Parker whose telephone number is (703) 308-3474.



Fred J. Parker

**FRED J. PARKER
PRIMARY EXAMINER**

April 10, 2003

9-864348